Newark

Department of Economics
Majid Sani

Introduction to Econometrics
21:220:303:01
Location: HIL-115
Spring 2019

Course Outline

Important: Read this syllabus thoroughly and carefully. You are responsible for all the material in it.

Course Description:
Econometrics theory is like an exquisitely balanced French recipe, spelling out precisely with how many urms to mix the sauce, how many carats of spice to add, and for how many milliseconds to bake the mixture at exactly 403 degrees of temperature.

The art of econometrician consists in finding the set of assumptions which are both sufficiently specific and sufficiently realistic to allow him/her to take the best possible advantage of the data available to him/her.

This class provides both theoretical and practical tools for applying economic theory and models to real economic data. We use statistical tools to answer "how much" type questions; by doing so, we are able to confirm or refute whether the economic theory or model actually operates in real world. By the end of this class you should have a solid understanding of many (not all!) important concepts and theories in econometrics. Also, you should have a command of the statistical tools and be able to do independent research using economic data.

Prerequisites:
(21:220:231 STATISTICAL METHODS )
OR
(21:960:285 )
OR
(01:960:285 INTRODUCTORY STATISTICS FOR BUSINESS )
OR
(21:640:327 PROBABILITY & STATISTICS )
OR
(29:390:300 FINANCIAL ECONOMETRICS )

Textbook:
The following should be available at the Rutgers Bookstore:

Requirement Textbook:
Practical Econometrics,
Christiana Hilmer, Michael Hilmer
McGraw-Hill

The text is written in a conversational language. It is easy to read, yet maintains a high level of rigor and analytic.

Not all the material in the lectures appears in the texts, nor is all the material in the texts covered in the lectures. You are
I am responsible for the material in the texts and in the lectures. I make every effort to have class attendance a necessary (though not sufficient) factor in performing well on examinations.

I suggest you that for the latest changes and announcements, once a week, or especially the week before the examinations visit the Blackboard.

**Lecture Topics:**
The following is a list of lecture topics. On some I will go into detail, others I will but mention in passing. I will follow the order below:

**Characteristics of Probability Distributions**
An Introduction to Econometrics and Statistics Chapter 1
Collection and Management of Data Chapter 2
Summary Statistics Chapter 3

**Characteristics of Probability Distributions**
Expected Value, Variance, Covariance, etc. Copy: on Blackboard

Simple Linear Regression Chapter 4
Hypothesis Testing in Linear Regression Analysis Chapter 5

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<tr>
<th>First Exam: Tuesday March 5, 2019</th>
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<tr>
<td>Multiple Linear Regression Analysis Chapter 6</td>
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<td>Qualitative Variables and Non-Linearity in MLR Analysis Chapter 7</td>
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<td>Model Selection in Multiple Linear Regression Analysis Chapter 8</td>
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<td>Heteroskedasticity Chapter 9</td>
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<th>Second Exam: Tuesday April 9, 2019</th>
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<tr>
<td>Time Series Analysis Chapter 10</td>
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<td>Autocorrelation Chapter 11</td>
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<td>Limited Dependent Variables Chapter 12</td>
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<td>Panel Data Chapter 13</td>
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<td>Instrumental Variables for Simultaneous Equations, Chapter 14</td>
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<td>Endogenous Independent Variables, and Measurement Error</td>
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<th>Final Exam: Tuesday May 14, 2019 8:30-11:00 A.M.</th>
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<td>NO early exam will be given.</td>
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Exams will consist of approximately 3 to 4 problems. Be sure you bring a No. 2 pencil and eraser to the exams.

**Exams are not be cumulative. (But they are very related to each other)**

**Grade Distribution:**
Homework assignments 10%
First Exam 30%
Second Exam 30%
Final Exam 30%

There would be five problem sets. Problem sets are essential in order to do well on examinations.
Grades will be posted on the “Blackboard” a week after the test. Problem sets will be posted on “Blackboard”.

There will be NO opportunity to MAKE UP an exam. If you miss an exam, you will receive a grade zero for that exam. There are NO extra-credit assignments. Plan to do well on the required material.
If a need warrants to curve the grades, it will be considered on the overall grades.
Grades will not be given by the e-mails.

For all the course information and documents please visit the “Blackboard”

Problems to work on:
The text contains a very good set of problems. You should work out all of them. These problems are a guide for your learning and you will be held responsible for understanding their content. The problems I consider most important are contained in the attachment list. This does not mean that you should not work through the other problems, only that I think these will be of the greatest value at the margin.

Attendance and Participation:
Regular class attendance is expected and class participation will be encouraged. Students will be responsible for all work missed during an absence, no matter what the reason for the absence. Consistent class attendance and worthwhile class participation will be viewed favorably in assigning grades for “borderline” cases.

Examination Rules:
Only pencils (No 2), pens, erasers, pencil sharpeners, and a calculator (you must have and use your own calculator) should be on your desk. You are best off not bringing anything else to the exam. If you do, put it in a bag under your seat.

A note about the calculator: You are allowed to use just a regular calculator. You are NOT allowed to use smartphones or smartwatches or any electronic/digital device with wireless and storage capability as a calculator. Using such these devices during the examinations considered as cheating.

I would like to remind everyone that violations of the university code of academic integrity, including plagiarism and cheating, will not be tolerated by the department or the university. Such violations are harmful to everyone and only serve to poison the atmosphere of openness and mutual trust on which an academic department depends. For more details please visit the following:
http://academicintegrity.rutgers.edu/

” Please DO NOT use your commercial or personal email accounts such as gmail, yahoo, etc. for the corresponding. I will NOT reply to any commercial or personal email accounts. All the emails should go through the Rutgers servers for the records. Please use your Rutgers email account for sending me an email.”

Office Hours:
Tuesday and Thursday 4:30-5:30 P.M., Hill Hall Room 826
You can reach me by e-mail: msani@rutgers.edu
(Weekend e-mails will be answered on Monday except the weekend before the exams)

Note:
Should I be forced to miss a class, I will make every effort to provide prior notice. In the absence of such notice, please wait 20 minutes past the hour.

P.S. Note that I reserve the right to alter the contents of this syllabus during the semester.
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**Homework assignments:**

You must work out these problems thoroughly before the class. You can do them either individually or form a group to do so.

chapter 1  #
chapter 2  #
chapter 3  #
chapter 4  
chapter 5  #
chapter 6  #
chapter 8  #
chapter 9  #
chapter 10 #
chapter 11 #